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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,078	06/25/2003	Rodney A. Kendall	FIS920030065	1077

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INTERNATIONAL BUSINESS MACHINES CORPORATION  
DEPT. 18G  
BLDG. 300-482  
2070 ROUTE 52  
HOPEWELL JUNCTION, NY 12533

EXAMINER

MACARTHUR, VICTOR L

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/604,078

Applicant(s)

KENDALL ET AL.

Examiner

Victor MacArthur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06/25/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “first contact surface”, “second contact surface”, “support surface of said support member” and “support surface of said object” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claims 1 and 11 are objected to because of the following informalities:

- The limitation “tension” (lines 14 and 16 of claims 1 and 11 respectively) should be changed to “a force”, in view of figure 1 of the applicant’s drawings. While it is true that the shaft (110) is in tension, it appears that element (115) is in compression, not tension, between element (111) and element (150).

Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what elements of the applicant's invention comprise the "first contact surface", "second contact surface", "support surface of said support member" and "support surface of said object". The specification and drawings do not recite the above-mentioned limitations, nor is it readily apparent how the invention works with respect to these limitations as claimed. For instance claim 1 states that a compressive force is applied between a "first contact surface" and a "second contact surface" the "first contact surface" being in contact with a "support surface" of the support member the "second contact surface" being in contact with a "support surface" of the object. What element of the drawings comprises a "first contact surface" that receives a compressive spring force (perhaps element 105 or 200) and is in contact with the support member (200 of the drawings)? Is element (105) being claimed as being in contact with element (200) or is the support member (200) somehow in contact with itself? Both scenarios bring about further confusion in view of the remaining claim 1 limitations.

The claims should be amended to use terminology recited in the specification or the specification should be amended to clearly point out which drawing elements are being claimed.

For the reasons mentioned above a great deal of confusion and uncertainty exists as to the proper interpretation of the claim limitations. For purposes of examination the claims have been interpreted to read as is best understood by the examiner.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Prescott U.S.

Patent 2712769.

Claim 1. Prescott discloses (fig.2) an apparatus for clamping a reference surface (bottom surface of 80) of an object (80) to a reference surface (top surface of 24) of a support member (24), comprising: at least one clamping member (34, 36) having means (52) for applying compressive force between the support member and a cap (48), said support member having a support surface (bottom surface of 24 contacting 52), said support surface of said support member being opposite said reference surface of said support member, each of said clamping members having a base member (34) with a contact area (bottom area of 34) in contact with a support surface (top surface of 80) of said object, said support surface of said object being opposite said reference surface of said object, each of said clamping members having a tension member (36) for applying a force to said base member, said tension member being adapted to maintain a tensile force (within itself between 48 and 34) and having a cross section such that said tension member exerts transverse force (force applied to 80 is in a transverse direction with respect to 24) on said object less than a threshold amount (some amount greater than that supplied by 52, which might damage 80).

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Claim 2. Prescott discloses that the means for applying compressive force is a spring (52).

Claim 3. Prescott discloses release means (44) for releasing compressive force.

Claim 4. Prescott discloses that the release means comprises a lever pressing (indirectly via 36 and 48) against the means for applying compressive force. Note that the lever (20) of the applicant's invention does not directly contact the spring (120).

Claims 5 and 6. Prescott discloses that support means (portion of 24 contacting 80) support the object when the compressive force is released.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 –10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prescott U.S. Patent 2712769 in view of Oguma U.S. Patent 6419536.

Claims 7-10. Prescott discloses that the tension member is a shaft (36). Prescott does not disclose that shaft has differing diameters. Oguma teaches (fig.2) a shaft (30) having a broader diameter at the top and bottom and a smaller diameter in a central area. Increasing the diameter of the top and bottom ends increases the strength of the ends of the shaft. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made modify

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the shape of the Prescott shaft such as to increase the top and bottom shaft diameters, as taught by Oguma, for the purpose of increasing the strength of the ends of the shaft.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prescott U.S. Patent 2712769 in view of Kempkes U.S. Patent 2682694.

Claim 11. Prescott discloses (fig.2) an apparatus for clamping a reference surface (bottom surface of 80) of an object (80) to a reference surface (top surface of 24) of a support member (24), comprising: at least one clamping member (34, 36) having means (52) for applying compressive force between the support member and a cap (48), said support member having a support surface (bottom surface of 24 contacting 52), said support surface of said support member being opposite said reference surface of said support member, each of said clamping members having a base member (34) with a contact area (bottom area of 34) in contact with a support surface (top surface of 80) of said object, said support surface of said object being opposite said reference surface of said object, such that said base member supports said object when clamped; each of said clamping members having a tension member (36) for applying a force to said base member, said tension member being adapted to maintain a tensile force (within itself between 48 and 34) and having a cross section such that said tension member exerts transverse force (force applied to 80 is in a transverse direction with respect to 24) on said object less than a threshold amount (some amount greater than that supplied by 52, which might damage 80); and release means (76 acting on 44) for compressing the tension member, whereby the base member moves away from the support member, thereby opening a gap between the object and the base member. The Prescott apparatus does not disclose that the gap is opened

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between the object and the support member. Kempkes illustrates (figs.17 and 18) that orientating a clamping apparatus such that a base member (50) supports an object from beneath (fig.18) is a known equivalent to orientating a clamping apparatus such that a base member (50) supports an object from above (figs.15-17). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to orientate the Prescott clamping apparatus such that the base member supports the object from the beneath, as illustrated by Kempkes, since both orientations are known equivalents in the art. The direction of gravity would dictate that such modification would necessarily affect the gap to be opened between the object and the support member rather than between the object and the base member.

Furthermore, the Prescott apparatus is fully capable of clamping a reference surface of an object to a reference surface of a support member in a vacuum (i.e. in outer space, within a vacuum chamber, etc.) thereby meeting the functional limitation “for clamping a reference surface of an object to a reference surface of a support member in a vacuum”.

Claim 12. Prescott discloses that the means for applying compressive force is a spring (52).

Claim 13. Prescott discloses release means (44) for releasing compressive force.

Claim 14. Prescott discloses that the release means comprises a lever (44) pressing (indirectly via 36 and 48) against the means for applying compressive force. Note that the applicant's own lever (20) does not directly contact the spring (120).

Claims 15 and 16. Prescott as modified by Kempkes above suggests that support means (portion of 34 contacting 80) supports the object when the compressive force is released.



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Claims 17 –20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prescott U.S. Patent 2712769 in view of Kempkes U.S. Patent 2682694, as applied to claims 11-14 above, and further in view of Oguma U.S. Patent 6419536.

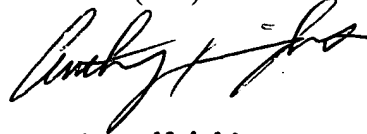
Claims 17-20. Prescott discloses that the tension member is a shaft (36). Prescott does not disclose that shaft has differing diameters. Oguma teaches (fig.2) a shaft (30) having a broader diameter at the top and bottom and a smaller diameter in a central area. Increasing the diameter of the top and bottom ends increases the strength of the ends of the shaft. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made modify the shape of the Prescott shaft such as to increase the top and bottom shaft diameters, as taught by Oguma, for the purpose of increasing the strength of the ends of the shaft.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor MacArthur whose telephone number is (703) 305-5701. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

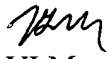
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

  
**Anthony Knight**  
**Supervisory Patent Examiner**  
**Group 3600**

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VLM

March 20, 2004

***Lynne H. Browne***  
***Supervisory Patent Examiner***  
**Technology Center 3600**